Claims

1. A method of delivering minor effective amounts of an active substance into the blood, comprising the steps of

(a) providing a viscous delivery composition including

(i) 75% to 99.999% by weight of at least one carrier, and

(ii) a minor effective amount of the active substance,

said composition having a viscosity in the range of 2,500 to 40,000 centipoise;

(b) applying said delivery composition in the nasal cavity, said nasal cavity including mucous, cilia and a nasal membrane, said delivery composition being applied such that a first portion of said composition directly contacts at least the nasal membrane, a second portion of said composition directly contacts at least mucous in the nasal cavity, and at least a third portion of said composition directly contacts at least cilia in the nasal cavity; and,

(c) maintaining said first portion of said delivery composition in contact with the nasal membrane for at least ten minutes.

2. A method of delivering a minor effective amount of an active substance to the blood and of reducing the time required to deliver the substance into the blood by increasing the ability of the active substance to penetrate the body, comprising the steps of

(a) providing at least one carrier including a minor effective amount of at least one permeation enhancer in the carrier to facilitate passage of the active substance through a nasal membrane in a nasal cavity, the nasal cavity including mucous and cilia;

(b) providing at least one active substance;

(c) combining the carrier and active substance to produce a viscous delivery composition including

(i) 75% to 99.999% by weight of said carrier, and

(ii) a minor effective amount of said active substance,

said composition having a viscosity in the range of 2,500 to 40,000 centipoise;

(d) applying said delivery composition in the nasal cavity such that a first portion of said composition directly contacts at least the nasal membrane, a second portion of said composition directly contacts at least the mucous in the nasal cavity, and at least a third portion of said composition directly contacts the cilia in the nasal cavity; and,

(e) maintaining said first portions of said delivery composition in contact with the nasal membrane for at least ten minutes.

3. A method of delivering a minor effective amount of an active substance to the blood and of reducing the time required for the active substance to pass through membrane into the blood by increasing the surface area over which the active substance contacts the body, comprising the steps of

(a) providing a viscous delivery composition including

(i) 75% to 99.999% by weight of at least one carrier, and

(ii) a minor effective amount of the active substance,

said composition having a viscosity in the range of 2,500 to 40,000 centipoise;

(b) applying said delivery composition in the nasal cavity,

(i) the nasal cavity including a nasal membrane, cilia and mucous,

(ii) a first portion of said composition directly contacting at least said nasal membrane, a second portion of said composition directly contacting at least said mucous in the nasal cavity, and at least a third portion of said composition directly contacting at least said cilia in the nasal cavity; and,

(c) increasing the activity of the cilia in the nasal cavity.

4. A method for controlling the rate at which minor effective amounts of an active substance are delivered into the blood, comprising the steps of

(a) providing a viscous delivery composition including

(i) 75% to 99.999% by weight of at least one carrier, and

(ii) a minor effective amount of the active substance,

said composition having a viscosity in the range of 2,500 to 40,000 centipoise;

(b) determining the carrier diffusion rate at which the active substance diffuses through the carrier at a selected temperature and a selected pressure;

(c) determining the membrane diffusion rate at which the active substance penetrates a nasal membrane when said delivery composition contacts the nasal membrane at said selected temperature and pressure;

(d) selecting at least one of a diffusion rate pair comprising

(i) said carrier diffusion rate, and

(ii) said membrane diffusion rate;

(e) adding a component to said viscous delivery composition to produce a modified viscous delivery composition in which the diffusion rate of said one of said diffusion rate pair is altered.